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A Review of the Cuban Ground Spiders of the Family Gnaphosidae (Araneae, Gnaphosoidea)

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ABSTRACT

Sixteen species of Gnaphosidae are known from Cuba. A new genus, *Cubanopyllus*, is described for *Litopyllus inconspicuus* Bryant, the male of which is described for the first time. A new species of the Caribbean gnaphosine genus *Microsa*, *M. cubitas*, is described. The male of *Cesonia cincta* (Banks)

is described for the first time. *Sergiolus kastoni* Platnick and Shadab, *S. cyaneiventris* Simon, *Cesonia bilineata* (Hentz), *C. irvingi* (Mello-Leitão), and *Urozelotes rusticus* (L. Koch) are newly recorded from Cuba.

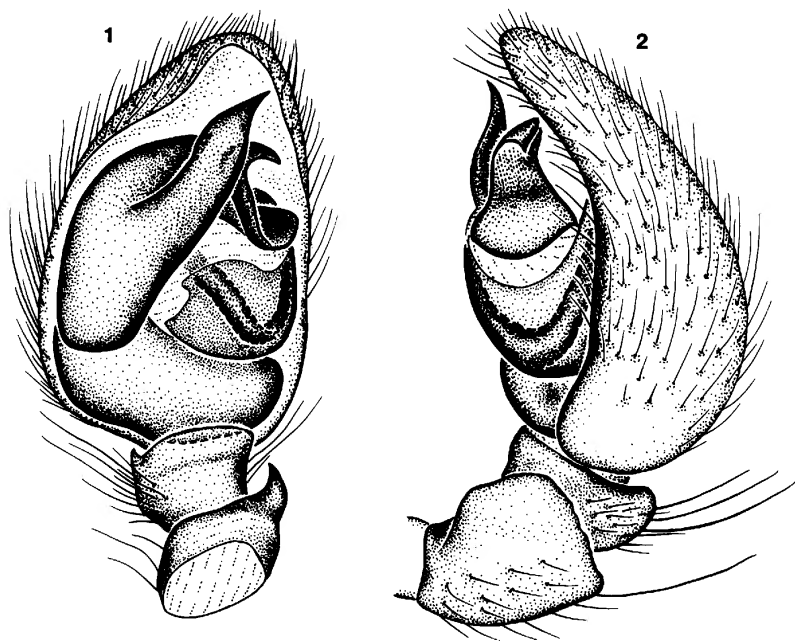
INTRODUCTION

Only a few arachnologists have reported spiders of the family Gnaphosidae from Cuba. Banks (1909, 1914) described two species, *Eilicina cincta* and *Callilepis grisea* (both now placed in *Cesonia*), from La Habana and Pinar del Río, respectively. Franganillo (1926) described *Gnaphosa simplex*, which was sub-

sequently synonymized with *G. sericata* (L. Koch). The most important work on the fauna to date is Bryant (1940), in which seven gnaphosid species were recorded, and three genera (*Caridrassus*, *Paramyrmecion*, and *Eilicina*) were newly established (all three generic names have been synonymized in sub-

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Figs. 1, 2. *Microsa cubitas*, new species, male palp. 1. Ventral view. 2. Retrolateral view.

sequent revisions). Platnick (1975) and Platnick and Shadab (1975, 1980a, 1980b, 1981, 1982) revised the Nearctic elements of the family, including Cuban records from material deposited in North American collections. Finally Alayón (1992, in press) described two new species, one in the genus *Zelotes* and the other in *Camillina*.

In this paper we report on specimens from Cuban collections taken, over the last two decades, in various parts of the island. We describe one new genus (including the first known males of its type species, *Litopyllus inconspicuus* Bryant), one new species of the Caribbean gnaphosine genus *Microsa*, and the male of *Cesonia cincta* (Banks), and present five new records for Cuba as well as new locality data for most of the remaining species.

The format of the descriptions and standard abbreviations of morphological terms follow those used in Platnick and Shadab (1975). All measurements are in millimeters. Material was obtained from the collections of the American Museum of Natural History (AMNH), the Natural History Museum, London (BMNH, courtesy of P. Hillyard), G. Alayón (CGA), the Instituto de Ecología y Sistemática, Academia de Ciencias de Cuba (IES, courtesy of L. F. de Armas), the Mu-

seum of Comparative Zoology (MCZ, courtesy of H. W. Levi), the Muséum National d'Histoire Naturelle, Paris (MNHN, courtesy of C. Rollard), the Museo Nacional de Historia Natural, Havana (MNHNC), and the National Museum of Natural History, Washington (USNM, courtesy of J. Coddington). We thank M. U. Shadab (AMNH) for help with illustrations, and C. D. Dondale of the Centre for Land and Biological Resources Research, Ottawa, and J. A. Murphy of Hampton, England, for helpful comments on a draft of the manuscript.

SYSTEMATICS

Gnaphosa sericata (L. Koch)

Map 1

Pythonissa sericata L. Koch, 1866: 31, pl. 2, figs. 21, 22 (male holotype from Baltimore, Maryland, in BMNH, examined).

Gnaphosa simplex Franganillo, 1926: 49 (male holotype from Santa Clara, Cuba, lost). First synonymized by Bryant, 1940: 390.

Gnaphosa sericata: Platnick and Shadab, 1975: 61, figs. 143–149.

DISTRIBUTION: Found from New York south to Guatemala; Cuban records include the following provinces: Cienfuegos (Sole-

dad), La Habana (San Antonio de los Baños), Pinar del Río (Valle de San Juan; Playa Galfre, San Juan y Martínez), and Villa Clara (Santa Clara).

NATURAL HISTORY: In Cuba, found under stones in humid, semiopen areas.

***Microsa cubitas*, new species**

Figures 1, 2; Map 1

TYPE: Male holotype from Loma de la Caridad, Sierra de Cubitas, Camaguey province, Cuba (June 15, 1984; L. F. de Armas), deposited in MNHNC.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males resemble those of *Microsa chickeringi* Platnick and Shadab but lack the distal prolateral lobe found on the palp of that species (figs. 1, 2; cf. Platnick and Shadab, 1977, figs. 4–6).

MALE: Total length 1.88. Carapace 0.88 long, 0.77 wide. Femur II 0.62 long. Eye sizes and interdistances: AME 0.04, ALE 0.05, PME 0.04, PLE 0.06; AME-AME 0.03, AME-ALE 0.02, PME-PME 0.05, PME-PLE 0.05, ALE-PLE 0.06; MOQ length 0.14, front width 0.11, back width 0.12. Leg spination: femur IV p0-0-0; tibiae: I v1r-1r-0; II v1r-1r-1p; III d1-0-0, p0-1-0, v1p-2-2; metatarsi: I v0-0-0; II v0-1r-0; III p0-0-1, v0-0-2, r0-0-1; IV p0-0-1, v0-0-2, r1-0-1. Palp with retrolateral patellar apophysis, without retrolateral tibial apophysis, without distal prolateral lobe (figs. 1, 2).

FEMALE: Unknown.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Known only from the type locality.

***Cesonia cincta* (Banks)**

Figures 3, 4; Map 2

Eilica cincta Banks, 1909: 157, pl. 45, fig. 8 (female holotype from La Habana, La Habana province, Cuba, in MCZ, examined).

Cesonia cincta: Platnick and Shadab, 1980b: 380, figs. 114, 115.

DIAGNOSIS: Males, newly described here, resemble those of *C. bryantae* Platnick and Shadab but can be distinguished by the longer, basally thicker embolus (figs. 3, 4).

MALE: Total length 3.33. Carapace 1.61 long, 1.71 wide. Femur II 0.96 long. Eye sizes



Map 1. Cuba, showing records of *Gnaphosa sericata* (closed circles), *Microsa cubitas* (cross), *Cubanopyllus inconspicuus* (open circles), and *Litypyllus cubanus* (triangles).

and interdistances: AME 0.06, ALE 0.06, PME 0.07, PLE 0.06; AME-AME 0.05, AME-ALE 0.02, PME-PME 0.06, PME-PLE 0.05, ALE-PLE 0.06; MOQ length 0.20, front width 0.18, back width 0.20. Leg spination: femora: I p0-1-1; III r0-0-1; IV p0-0-1; patellae III, IV r0-0-0; tibiae: I v2-2-2; II v1r-2-2; III d0-0-0; IV d0-0-0, p0-1-0; metatarsi: I, II v2-0-0; IV p0-2-2, v2-0-1p. Dorsum of abdomen with transverse white band at about half its length. Embolus long, basally thickened (fig. 3); retrolateral tibial apophysis constricted at tip (fig. 4).

NEW RECORD: The newly discovered male was taken 5 km S of Yaguajay, Sancti Spiritus province, Cuba, in May 1978 (L. F. de Armas, CGA).

***Cesonia grisea* (Banks)**

Map 2

Callilepis grisea Banks, 1914: 639, fig. 2 (female holotype from Pinar del Río, Cuba, in AMNH, examined).

Cesonia grisea: Platnick and Shadab, 1980b: 384, figs. 144, 145.

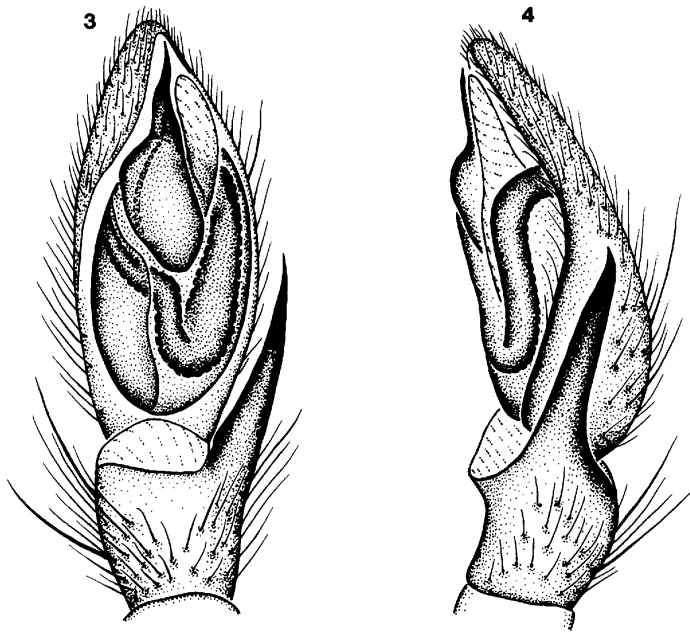
DISTRIBUTION: Endemic to Cuba; recorded from Crocodile (formerly Jacksonville), Isle of Youth (formerly Isle of Pines), Batey del Medio, Meneses, Sancti Spiritus province; La Punta, 5 km from La Mula, Guama, Santiago de Cuba province.

NATURAL HISTORY: Specimens have been taken on bromeliads (*Tillandsia* sp.) in wet forests.

***Cesonia bilineata* (Hentz)**

Map 2

Herpyllus bilineatus Hentz, 1847: 456, pl. 24, fig. 5 (male and female syntypes from North Carolina and Alabama, destroyed).



Figs. 3, 4. *Cesonia cincta* (Banks), male palp. 3. Ventral view. 4. Retrolateral view.

Cesonia bilineata: Platnick and Shadab, 1980b: 342, figs. 1–7.

DISTRIBUTION: Eastern North America, from Manitoba south to Florida and Cuba (Puerto Manati, Las Tunas province).

NATURAL HISTORY: Cuban specimens have been taken in sandy and marshy places on the border of coastal forests.

Cesonia irvingi (Mello-Leitão)

Map 2

Herpyllus australis Fox, 1938: 233, pl. 2, fig. 1 (female holotype from Key West, Monroe County, Florida, in USNM, examined).

Herpyllus irvingi Mello-Leitão, 1944: 4 (new name for *Herpyllus australis* Fox, believed to be pre-occupied in *Herpyllus* by *Drassus australis* Holmberg).



Map 2. Cuba, showing records of *Cesonia cincta* (closed circles), *C. grisea* (cross), *C. bilineata* (open circle), and *C. irvingi* (square).

Cesonia irvingi: Platnick and Shadab, 1980b: 382, figs. 134–139.

DISTRIBUTION: Known only from southern Florida, the Bahamas, and Cuba: Cayo Cantiles, Canarreos Archipelago, Isle of Youth (formerly Isle of Pines).

NATURAL HISTORY: In Cuba this species lives in coastal forest, under stones and bark.

Cubanopyllus, new genus

TYPE SPECIES: *Litopyllus inconspicuus* Bryant.

ETYMOLOGY: The generic name is a contraction of Cuban *Litopyllus* and is masculine in gender.

DIAGNOSIS: *Cubanopyllus* can be recognized most easily by genitalic characters: the rounded spermathecae and enlarged median ducts of females, and palpi with the retrolateral tibial apophysis distally swollen, the median apophysis sinuous and folded at the base of the embolus, and the embolus short, thick, and distally acute. Specimens can be distinguished from other North American gnaphosid genera as follows: from *Gnaphosa*, *Callilepis*, and *Eilica* by lacking a retromarginal cheliceral keel or lamina; from *Drassodes* by lacking deeply notched trochanters;

from *Scotophaeus* by the short embolus; from *Drassyllus*, *Zelotes*, *Trachyzelotes*, *Urozelotes*, and *Camillina* by the absence of a metatarsal preening comb; from *Scopodes* by having the posterior eye row slightly procurved; from *Nodocion*, *Haplodrassus*, *Orodassus*, *Herpyllus*, *Scotophaeus*, *Rachodrassus*, *Scopodes*, and *Litopyllus* by the rounded spermathecae; and from *Sosticus* by lacking an epigynal scape.

DESCRIPTION: Total length 2.8–4.1. Carapace oval in dorsal view, truncated anteriorly and posteriorly, widest between coxa II and III, slightly elevated in area of thoracic groove, yellowish beige with some filiform setae on margins, setae longer in ocular area. Thoracic groove longitudinal, straight. From front, anterior eye row strongly procurved. AME circular, dark; other eyes oval, light. AME and ALE subequal, largest; PME smallest. AME separated by their radius, almost touching ALE; PME separated by their diameter, from PLE by less than their radius; MOQ roughly square. Clypeal height equal to or slightly greater than AME radius. Cheliceral promargin with two tiny teeth and one denticle, retromargin with one denticle. Mouthparts pale yellowish orange; endites slightly converging distally, obliquely depressed, with weak scopula; labium subquadrate, anterior margin rounded; sternum broad in middle with stiff setae at margins, rebordered, with slight extensions between coxae. Leg formula 4123. Typical leg spination pattern (only surfaces bearing spines listed): femora: I d1-1-1, p0-0-1; II d1-1-1, p0-1-1; III, IV d1-1-1, p0-1-1, r0-1-1; patella III p0-1-0, r0-1-1; tibiae: I v1r-1r-1p; II v1r-2-1p; III d1-0-0, p1-1-1, v2-2-2, r0-1-1; IV p1-1-1, v2-2-2, r1-1-1; metatarsi: I, II v2-0-0; III p1-2-2, v2-2-0, r1-1-2; IV p1-2-2, v2-2-0, r1-2-2. Tarsi and metatarsi with sparse scopulae, more developed in females; tarsi with two dentate claws and claw tufts. Trochanters only shallowly notched. Distal leg segments with dorsal trichobothria. Metatarsi III with preening brush. Abdomen white with yellow anterior scutum in males, grayish white in females. Six spinnerets, anterior laterals long, with three large piriform gland spigots. Palp with short, sinuous embolus, folded median apophysis, and membranous conductor. Retrolateral tibial apophysis long, slightly swollen distally. Epi-

gynum with anterior margin and plate; spermathecae rounded.

Cubanopyllus inconspicuus (Bryant),
new combination
Figures 5–8; Map 1

Litopyllus inconspicuus Bryant, 1940: 393, fig. 176 (female holotype from Soledad, Cienfuegos province, Cuba, in MCZ, examined).

DIAGNOSIS: With the characters of the genus and genitalia as in figures 5–8.

MALE: Total length 2.86. Carapace 1.38 long, 1.00 wide. Femur II 0.91 long. Eye sizes and interdistances: AME 0.07, ALE 0.07, PME 0.08, PLE 0.09; AME-AME 0.03, AME-ALE 0.01, PME-PME 0.03, PME-PLE 0.03, ALE-PLE 0.05; MOQ length 0.23, front width 0.17, back width 0.19. Leg spination typical for genus. Palp as in figures 5, 6.

FEMALE: Described by Bryant (1940).

MATERIAL EXAMINED: The holotype, plus one male taken at Puerto Manati, Las Tunas province, Dec. 1981 (L. F. de Armas, IES) and one female taken at Cuabales de San Fco. Matanzas, May 5, 1984 (L. F. de Armas, IES).

DISTRIBUTION: Known from Cienfuegos and Las Tunas provinces (map 1).

NOTE: The type locality is in Cienfuegos province, not in Oriente as indicated by Platnick and Shadab (1980a). The eastern locality with the same name was never visited by past local or foreign collectors (P. Alayo, personal commun.). In early years, North American collectors often visited Soledad (a site well known because of the presence of the Atkins Garden and the former laboratories of the MCZ).

NATURAL HISTORY: Specimens have been collected under stones in coastal areas.

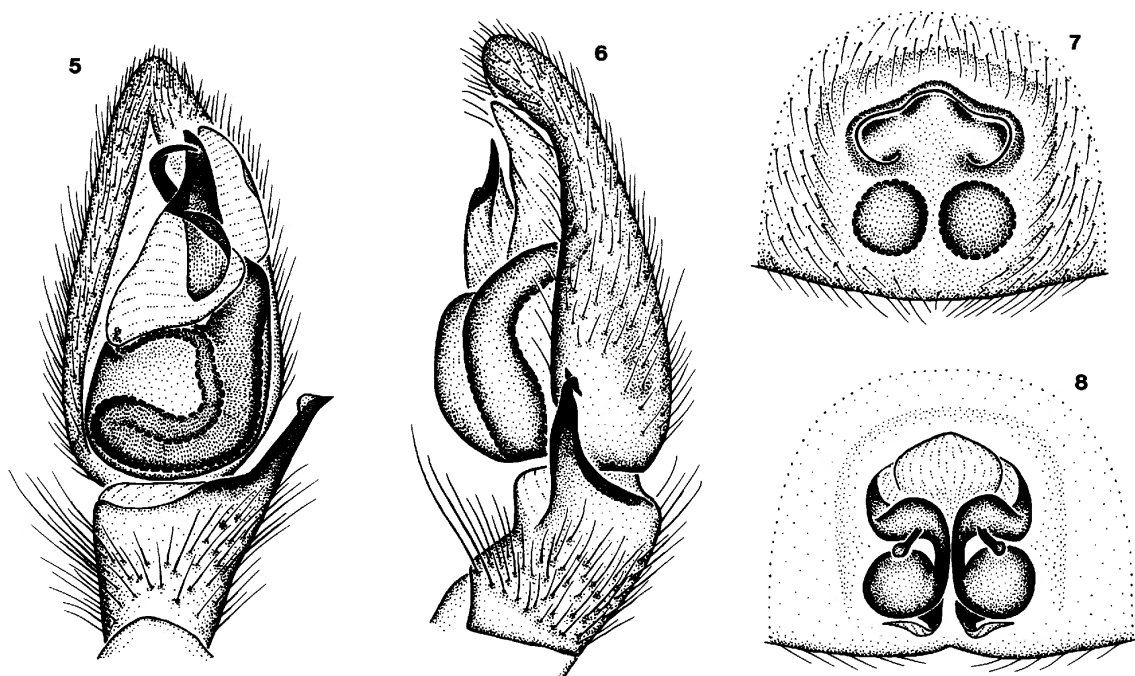
Litopyllus cubanus (Bryant)
Map 1

Paramyrmecon cubanum Bryant, 1940: 395, figs. 173, 175 (female holotype from Soledad, Cienfuegos province, Cuba, in MCZ, examined).

Litopyllus cubanus: Platnick and Shadab, 1980a: 21, figs. 36–39.

DISTRIBUTION: Known only from Florida, Bimini, and Cuba (city of La Habana and the type locality).

NATURAL HISTORY: Specimens have been taken under stones in semiopen places (bor-



Figs. 5–8. *Cubanopyllus inconspicuus* (Bryant). 5. Male palp, ventral view. 6. Same, retrolateral view. 7. Epigynum, ventral view. 8. Same, dorsal view.

ders of woods), and in the nests of *Rattus norvegicus*.

Sergiolus minutus (Banks)

Map 3

Poecilochroa minuta Banks, 1898: 185 (male holotype from Brazos County, Texas, in MCZ, examined).

Sergiolus minutus: Platnick and Shadab, 1981: 20, figs. 48–53.

DISTRIBUTION: Eastern United States, Jamaica, and Cuba (9 km S Pinar del Río city, and Soroa, both in Pinar del Río province).

NATURAL HISTORY: In Cuba this species has been found under stones in semihumid forest.

Sergiolus cyaneiventris Simon

Map 3

Sergiolus cyaneiventris Simon, 1893: 311 (female holotype from Florida, in MNHN, examined). – Platnick and Shadab, 1981: 24, figs. 60–65.

DISTRIBUTION: Eastern United States and Cuba (Guanahacabibes, Pinar del Río province).

NATURAL HISTORY: In Cuba this species

has been found under stones in coastal semideciduous forest.

Sergiolus kastoni Platnick and Shadab

Map 3

Sergiolus kastoni Platnick and Shadab, 1981: 13, figs. 24–29 (male holotype and female paratype from Gainesville, Alachua County, Florida, in AMNH, examined).

DISTRIBUTION: Known only from Florida and Cuba (La Morena, Carretera El Socucho, Puerto Padre, Las Tunas province).

NATURAL HISTORY: In Cuba this species has been found under stones in dry and open areas along the coast.

Eilica bicolor Banks

Map 4

Eilica bicolor Banks, 1896: 60 (male holotype from Punta Gorda, Charlotte County, Florida, in MCZ, examined). – Platnick, 1975: 10, figs. 1, 20–23.

Caridrassus wheeleri Bryant, 1940: 392, figs. 166, 167 (female holotype from Ciénaga de Zapatá, Matanzas province, Cuba, in MCZ, examined). First synonymized by Platnick, 1975: 10.



Map 3. Cuba, showing records of *Sergiolus minutus* (closed circles), *S. cyaneiventris* (cross), and *S. kastoni* (open circle).

DISTRIBUTION: California south to Honduras, east to Jamaica and Cuba: El Abra, Sierra de Casas, Isle of Youth (formerly Isle of Pines).

NATURAL HISTORY: In Cuba this species has been collected under stones in semideciduous forest.

Zelotes holguin Alayón

Map 4

Zelotes holguin Alayón, 1992: 2, figs. 1A, B (female holotype from Loma de la Cruz, Holguin, Holguin province, Cuba, in MNHNC, examined).

DISTRIBUTION: Known only from the type locality.

NATURAL HISTORY: The holotype was taken under a stone in a replanted pine forest.

Camillina elegans (Bryant)

Map 4

Eilicina elegans Bryant, 1940: 391, figs. 165, 169 (female holotype from Maisí, Guantánamo province, Cuba, in MCZ, examined).

Camillina elegans: Platnick and Shadab, 1982: 4, figs. 1–4.

DISTRIBUTION: Florida to Curaçao; Hawaii; Marshall Islands; Papua New Guinea; Angola. In Cuba the species is known only from the holotype.

NATURAL HISTORY: In other areas, the species has been collected in sandy places, human dwellings, various crop fields, on the shores of ponds, in cleared woods, and in herbaceous strata at the edge of forests.

Camillina sp.

Map 4

NOTE: A description of this new species is forthcoming (Alayón, in press). The type was



Map 4. Cuba, showing records of *Eilica bicolor* (closed circles), *Zelotes holguin* (open circle), *Camillina elegans* (triangle), *Camillina* sp. (square), and *Urozelotes rusticus* (crosses).

collected at Canalejas, Cayo Romano, Camaguey province, Cuba.

Urozelotes rusticus (L. Koch)

Map 4

Prothesima rustica L. Koch, 1872: 309 (female holotype from "Trient," Trento, Trentino-Alto Adige, Italy, in BMNH, examined).

Urozelotes rusticus: Platnick and Murphy, 1984: 24, figs. 55–58.

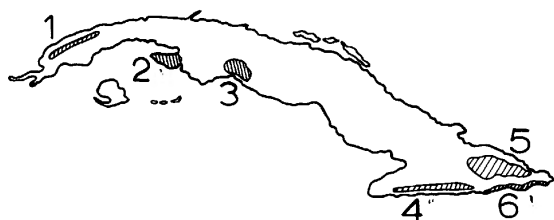
DISTRIBUTION: Cosmopolitan (synanthropic). In Cuba: San Antonio de los Baños, and Medicine School (in laboratory) at Marianao, both in La Habana province.

NATURAL HISTORY: In Cuba this species has been taken only in houses and buildings.

DISCUSSION

The spider family Gnaphosidae is not well represented in Cuban collections, despite all the collecting done during this century. Prior to this contribution only nine species had been reported, distributed primarily in the western and southcentral parts of the main island, with few records from eastern provinces. Hence our collecting trips over the last two decades concentrated on the eastern portion of the Cuban archipelago. Nevertheless, the total number of species is not high. In this paper we report seven additional species for a total of 16, six of which appear to be endemics: *Cesonia cincta* (Banks), *Cesonia grisea* (Banks), *Cubanopyllus inconspicuus* (Bryant), *Microsa cubitas* new species, *Camillina* sp., and *Zelotes holguin* Alayón.

It is probable that areas such as the Sierra de Guaniguanico (Pinar del Río province), Ciénaga de Zapatá (Matanzas province), Sierra de Guamuhaya (Sancti Spiritus province), Sierra Maestra (Santiago de Cuba prov-



Map 5. Cuba, showing some of the principal areas of endemism: Sierra de Guaniguanico (1), Ciénaga de Zapatá (2), Sierra de Guamuhaya (3), Sierra Maestra (4), Cuchillas del Toa (5), and the south coast of Guantanamo province (6).

ince), Cuchillas del Toa (Holguín and Guantanamo provinces), and the south coast of Guantanamo province (see map 5) will be found to contain additional new species or records of this spider family, because they are zones of high endemism for other animals and plants.

Only three genera are represented by more than a single species. *Cesonia* is the most speciose, with four species represented. The genus has been divided into four species

groups (Platnick and Shadab, 1980b), two of which are present in Cuba: the *elegans* group with *C. cincta*, *C. grisea*, and *C. irvingi*, and the *bilineata* group with *C. bilineata*. The genus has 30 species, mostly Nearctic in distribution but with some Neotropical and Antillean elements. In Cuba *C. cincta* appears to be the most widespread species (see map 2).

Sergiolus is the second best represented genus, with three species: *S. minutus*, *S. kastoni*, and *S. cyaneiventris*. The genus is found in temperate North America, with one species extending into northern Canada, five into Mexico, one into the West Indies, and one each endemic to the islands of Guadalupe and Hispaniola. In Cuba *S. minutus* is the most widespread species (see map 3).

The Cuban fauna of *Camillina* includes two species, *C. elegans* and a new species; the first has only an isolated record from the eastern tip of Cuba (see map 4), the second in the northeastern part. It is likely that additional species of this genus occur in Cuba.

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